REMARKS

This Amendment, filed in reply to the Office Action dated June 14, 2005, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1-21 and 100-117 remain pending in the application. Claims 1-21, 100-107, 109, 110, 112-113 and 115-117 have been rejected under 35 U.S.C. § 103 as being unpatentable over Ito (EP 0 766 202), previously of record. Claims 108, 111 and 114 have been rejected under 35 U.S.C. § 103 as being unpatentable over Ito in view of Ito (U.S.P. 5,964, 447, hereafter "Ito `447"), previously of record. Applicant respectfully submits the following arguments in traversal of the prior art rejections.

Applicant's invention relates to the processing of different frequency bands of image information based on the picture element density in each of the bands. Applicant's claim 1 describes both a) defining a transform parameter based on the picture element density and b) defining different parameters relative to the different picture element densities of the image signal. As previously submitted in the Response of August 19, 2004, Ito does not teach these aspects of claim 1.

The Examiner relies on the Abstract of Ito, Figs. 1, 12, 43 (conversion means 3) and the disclosure at pages 10-11 to disclose aspect a) of defining a transform parameter based on picture element density. However, the Abstract generally describes processing through unsharp filtering, producing band-limited signals from the unsharp signals, integrating certain frequency characteristics and adding the results of the integration to the original signal to provide frequency emphasis. Dynamic range compression is also taught. The objects of these processes include

artifact reduction in the vicinity of the edge of an image. Figs. 1, 12 and 43 do not further elaborate on how the picture element density of an image signal is used for purposes of forming a transform. The disclosure at pages 10-11 describes edge detection of band-limited signals based on variation of the value of the image. However, no processing is varied based on a picture element density of the image. Therefore, contrary to the Examiner's contention, aspect a) of providing a transform parameter based on image picture density is not taught or suggested by Ito.

With regard to aspect b), the inclusion of different parameters for different picture element densities, the Examiner correctly concedes that Ito fails to teach this aspect of the claims. However, the Examiner contends that it would be obvious to vary a transform based on this characteristic. To some degree, the Examiner's contention appears to rely on circular reasoning. In particular, the Examiner states that it would be obvious to have different picture element densities if different parameters are defined for different picture elements because the parameters are defined as functions based on picture element densities. This aspect of the Examiner's rationale is not supportable.

The Examiner continues to cite alleged spatial and optical resolution transformation formulas 1-3 and 6 as suggesting transform variation based on picture element density. However, each of formulas 1-3 and 6 are based on picture element value and not density. The Examiner also contends that the signals Bk correspond to different spatial resolution transforms. We would note that the signals Bk, for example, result from passing an original signal through one or more unsharp mask filters. To the extent that Bk have different resolutions, these do not correspond to a picture element density of an original signal but rather a density from a series of filter outputs. Moreover, claim 1 describes that image processing defines the transform function based different

picture element densities. However, the reverse relation is present for the unsharp filtering because the resulting resolution is determined by the unsharp filter function. The function is not determined by any picture element density as claimed. Therefore, we would submit that Ito does not or suggest each feature of independent claim 1.

Because independent claims 8 and 15 include features analogous though not necessarily coextensive with the features of claim 1, claims 8 and 15 are patentable for the reasons set forth above.

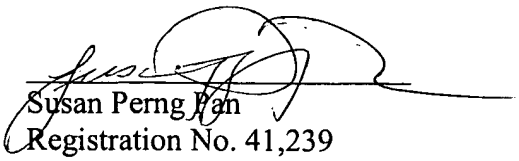
Furthermore, the present invention is directed to decomposing an image into a plurality of images which are different in frequency band, carrying out a frequency enhancement processing on the respective images which are different in frequency bands so that the images have been emphasized at predetermined frequency bands, and performing an inverse transformation processing on the images on which the emphasis processing have been carried out, to reproduce an image.

However, even if the above processes are carried out on the images which are different in resolution, the same result as the invention cannot be obtained, since the frequency response characteristic of the image varies depending on the resolution. Thus, the present invention makes it possible to observe the same object easily irrespective of the resolution by changing the frequency enhancement processing depending on the resolution.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Susan Perng Pan
Registration No. 41,239

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: December 14, 2005